UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

DEC 0 9 2015

ENFORCEMENT ACTION MEMORANDUM

SUBJECT: Approval of a Time-Critical Removal Action at the West Lake Landfill Site, Bridgeton, Missouri

FROM: Tom Mahler, On-Scene Coordinator
Emergency Response and Removal South Branch

TO: Mary P. Peterson, Director
Superfund Division

CERCLIS ID:	MOD079900932
Operable Unit:	01
SSID:	0714
Removal Category:	Enforcement Time-Critical
Nationally Significant/Precedent-Setting:	No

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of a time-critical removal action at the West Lake Landfill site (Site) in Bridgeton, St. Louis County, Missouri. The time-critical removal action will involve actions to prevent surface fires and migration of contaminants from Area 1 and Area 2 of Operable Unit 1 (OU-1) where Radiologically Impacted Materials (RIM) are at or near the surface. These actions are necessary to mitigate the risk of surface fires and to minimize the potential for any future migration of RIM off the Site by wind, precipitation, or other adverse weather events. This action also calls for the development of an incident action plan or the augmentation of existing plans to clearly define the notification, response, and air monitoring protocols to be followed by the site owner and/or operator in the event of future surface fires or other emergency incidents. This removal action is expected to be conducted by the following potentially responsible parties (PRPs): Bridgeton Landfill, LLC, the current operator of the Site, Rock Road Industries, Inc., the current owner of OU-1, and Cotter Corporation (N.S.L.). The U.S. Environmental Protection Agency will perform oversight of the PRPs' work, including the review and approval of all work plans and reports, and oversight of field activities.

This time-critical removal action is necessary to mitigate any potential future threat to public health or welfare or the environment posed by an occurrence of a surface fire or other emergency incidents at the Site. The radiological wastes in OU-1 are hazardous substances as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601(14), and are designated hazardous substances per 40 C.F.R. § 302.4(b).

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Removal Site Evaluation

The Site was used for agricultural purposes until a limestone quarrying and crushing operation began in 1939. The quarrying operation continued until 1988 and resulted in two quarry pits. Beginning in the early 1950s, portions of the quarried areas and adjacent areas were used for landfilling municipal refuse, industrial solid wastes, and construction/demolition debris. These operations pre-dated state permitting requirements. Two landfill areas were radiologically contaminated in 1973 when they received soil mixed with leached barium sulfate residues. These two landfill areas constitute OU-1.[1]

The barium sulfate residues, containing traces of uranium, thorium, and their daughter products, were some of the uranium ore processing residues initially stored by the Atomic Energy Commission (AEC) on a 21.7-acre tract of land in a then undeveloped area of north St. Louis County, now known as the St. Louis Airport Site (SLAPS), which is part of the St. Louis Formerly Utilized Sites Remedial Action Program managed by the U.S. Army Corps of Engineers (Corps). The radium and lead-bearing residues—known as K-65 residues—were stored in drums prior to being transported to federal facilities in New York and Ohio.

In 1966 and 1967, the barium sulfate residues from SLAPS were purchased by a private company for mineral recovery and placed in storage at a nearby facility on Latty Avenue under an AEC license. Most of the residues were shipped to Canon City, Colorado, for reprocessing except for the leached barium sulfate residues, which were the least valuable in terms of mineral content, i.e., most of the uranium and radium was removed in previous precipitation steps. Reportedly, 8,700 tons of leached barium sulfate residues were mixed with approximately 39,000 tons of soil and then transported to the Site. According to the landfill operator, the soil was used as cover for municipal refuse in routine landfill operations. The data collected during the Remedial Investigation (RI) are consistent with this account.

The Bridgeton Sanitary Landfill (Former Active Sanitary Landfill) quarry pits were used for permitted solid waste landfill operations beginning in 1979. In August 2005, the Bridgeton Sanitary Landfill stopped receiving waste pursuant to an agreement with the city of St. Louis to reduce the potential for birds to interfere with Lambert-St. Louis International Airport operations.

The EPA placed the Site on the Superfund National Priorities List (NPL) in 1990. The NPL is a list of priority sites promulgated pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. The NPL is found in Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

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[1] OU-2 of the site are those portions of the landfill where non-radiological hazardous substances are present. The EPA issued a Record of Decision for OU-2 in July 2008.

In 1993, the EPA entered into an Administrative Order on Consent (AOC) with Respondents Cotter Corporation (N.S.L.), Laidlaw Waste Systems Inc. (Bridgeton Landfill, LLC), Rock Road Industries, Inc., and the U.S. Department of Energy for the performance of a Remedial Investigation (RI) and Feasibility Study (FS). Pursuant to the AOC, the Respondents submitted for the EPA's review and approval a RI which detailed the findings of extensive sampling and analysis in the area of OU-1 and the surrounding area. Following the RI, the Respondents submitted for the EPA's review and approval an FS which evaluated the various remedial alternatives for OU-1, consistent with the requirements of the AOC, CERCLA, and the NCP. In addition, the state of Missouri reviewed and commented on these documents. The Record of Decision (ROD) documenting the remedy selection for OU-1, which was concurred on by the state, was issued by the EPA in May 2008. This remedy has not yet been implemented.

Between 2013 and 2015, additional investigations were performed by the PRPs to further delineate the extent of radionuclides in OU 1, Area 1 in support of building a potential isolation barrier (Phase 1). The validated laboratory data from this investigation is under review by the EPA. The PRPs are currently performing additional characterization of contamination in Area 1 and Area 2.

On October 24, 2015 at approximately 2:00 p.m., a brush fire occurred near the entrance to the property located at the intersection of St. Charles Rock Road and Tausig Road. The reported cause of the fire was a malfunctioning electrical switch attached to an adjacent power line pole. The Pattonville Fire Protection District (PFD) responded with support from the Robertson Fire Protect District (RFPD) and extinguished the fire in approximately 20 minutes. The affected area is located approximately 390 feet from the nearest known location of RIM. The EPA dispatched a responder. Because the Site was secure and the remaining daylight was limited, the EPA returned the morning of October 25 to investigate. The EPA performed a gamma screening of the affected area and collected three surface soil samples. Results of the gamma screening indicated no elevated levels, and were consistent with screening performed by the PFD and the MDNR. Soil sampling included the collection of one sample from the center of the affected area and two samples from areas where fire suppression waters would most likely have flowed.

2. Physical location

The Site is on a parcel of approximately 200 acres located in the northwestern portion of the St. Louis metropolitan area. It is situated approximately one mile north of the intersection of Interstate 70 and Interstate 270 within the limits of the city of Bridgeton in northwestern St. Louis County. The Missouri River lies about two miles to the north and west of the Site. The Site is bounded on the north by St. Charles Rock Road and on the east by Tausig Road. Old Saint Charles Rock Road borders the southern and western portions of the Site. The Earth City Industrial Park is adjacent to the Site on the west. The Spanish Village residential subdivision is located less than a mile to the south. Mixed commercial, retail, manufacturing, and single-family residential uses are present to the southeast of the Site.

3. Site characteristics

The Site consists of the Bridgeton Sanitary Landfill (Former Active Sanitary Landfill) and several inactive areas with sanitary and demolition fill which are closed. The address of the Bridgeton Landfill is 13570 St. Charles Rock Road. The Site is divided into two operable units (OUs). OU-1 addresses two of the inactive landfill areas (Area 1 and Area 2) where radiological contamination is located, and the area formerly described as the Ford Property, now the Buffer Zone / Crossroads Property. The other landfill areas where radiological contaminants are not present constitute OU-2.

There are other facilities and operations located and conducted on the 200-acre parcel which are not included in the Site. These include concrete and asphalt batch plants, a solid waste transfer station, a leachate pre-treatment plant, and an automobile repair shop.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

As described above, the RI has documented the presence of radiological contamination in the OU-1, Area 1 and 2 cells and the near-surface soils on these cells. The presence of radiological contamination in these areas constitutes a release into the environment of a hazardous substance. A recent brush fire at the site, while not in an area containing RIM, has heightened concern about the potential release of radiological contaminants that could occur as a result of surface fires.

5. National Priority List (NPL) status

The Site is listed on the National Priorities List (55 Fed. Reg. 35502, August 30, 1990).

6. Maps, pictures, and other graphic representations

Depictions of the Site will be included in the Administrative Record for this removal action.

B. Other Actions to Date

1. Previous actions

As discussed above, there have been substantial CERCLA response actions taken at the Site.

2. Current actions

On April 20, 2015, the EPA determined that additional work was necessary to accomplish the objectives of the Remedial Investigation/Feasibility Study for Operable Unit 1. Respondents are currently collecting additional data from Areas 1 and 2, pursuant to a work plan approved by the EPA on September 4, 2015. The data from this effort will be used by the Respondents in the development of partial and full excavation remedial alternatives to be evaluated and presented to the EPA in a Final Feasibility Study.

Bridgeton Landfill, LLC and Rock Road Industries, Inc. are also currently implementing an Administrative Settlement Agreement and Order on Consent for Removal Action – Preconstruction Work for the performance of actions that support the design, construction and maintenance of an Isolation Barrier. Air monitoring is currently being performed by these parties pursuant to this Order.

C. State and Local Authorities' Roles

1. State and local actions to date

The West Lake Landfill NPL site encompasses several closed landfills. Operable Unit 2 consists of the closed Bridgeton Landfill (or Former Active Sanitary Landfill) and the closed Demolition and Inactive Sanitary Landfills. The Bridgeton Landfill closed in 2005 pursuant to an agreement with the city of St. Louis due to a runway expansion project at the nearby Lambert – St. Louis International Airport. The EPA issued a ROD in 2008 that defers remediation of the Bridgeton and Demolition Landfills to the Missouri Department of Natural Resources (MDNR) in accordance with existing solid waste permits and post-closure requirements.

Since 2010 a subsurface smoldering event (SSE) has been occurring in the Bridgeton Landfill in OU-2. As described above, the MDNR has an extensive solid and hazardous waste history with the Site, particularly with administering and overseeing closure work on the Bridgeton Sanitary Landfill and responding to the SSE. The MDNR has conducted inspections, and has issued a state order, seeking certain response actions at the Site.

Bridgeton Landfill has developed an Incident Management Plan (IMP) which describes plans to prevent incidents, required protocol for initial incident emergency calls, coordination of responses, and resumption of normal activities (in case of interruption). The IMP was prepared by Bridgeton Landfill with the cooperation of appropriate regulatory authorities and local emergency responders.

Potential for continued state/local response

The MDNR is expected to continue as the lead agency overseeing post closure work on the Bridgeton Landfill.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Where the EPA makes a determination, based on the factors set forth in 40 C.F.R. § 300.415(b)(2), that a release or substantial threat of release of a hazardous substance poses a threat to public health or welfare or the environment, the EPA may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release. The factors in 40 C.F.R. § 300.415(b)(2) that apply to this Site are:

- **300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.**

The primary contaminants of concern at the Site are Radiological Impacted Materials (RIM) contained within the landfill. If trees or brush were to catch fire near areas where RIM is located on the surface of Area 1 or Area 2, there is the potential for the radionuclides and their daughter products to migrate off-Site. This could present unacceptable exposures to nearby human populations, animals, or the food chain. There are numerous businesses and some residences near the Site, on-Site and off-Site workers, and residents who may potentially be exposed in the event of a surface fire in OU 1 where RIM is located at or near the surface.

- **300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soil largely at or near the surface that may migrate.**

Radium 226 has been found at the surface in Area 1 as high as 906 pCi/g and in Area 2 as high as 3720 pCi/g. In addition, Thorium 230 has been found at the surface in Area 1 as high as 9700 pCi/g and in Area 2 as high as 29,240 pCi/g. If the vegetation surrounding these areas is impacted because of a surface fire, these materials may migrate.

- **300.415(b)(2)(vi) – Threat of fire or explosion.**

As long as there are materials which are combustible such as trees or brush in Area 1 or Area 2 of OU-1 that are collocated with RIM at or near the surface, a fire could occur.

- **300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release**

There are no other known appropriate federal or state response mechanisms available to conduct this response at the Site.

IV. ENDANGERMENT DETERMINATION

The actual release or threatened release of hazardous substances at and from the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTION AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The proposed action will require the placement of a cover which is not combustible in exposed areas where RIM is located at or near the surface in Area 1 and Area 2. The action will also include the grubbing and clearing of brush and trees from locations where

RIM is known to be located at or near the surface in Area 1 and Area 2, followed by placement of an appropriate cover. Engineering controls will be required to ensure RIM is not mobilized during this action. Concurrently or following those actions, confirmation testing will be performed to confirm that RIM located at or near the surface in OU-1 has been covered. This investigation may include the measurement of gamma radiation and the analysis of surface soil samples. The EPA may collect splits from any soil samples. The proposed action will also include on-Site air monitoring for radionuclides during any clearing and covering actions. The EPA will oversee Respondents' work to implement the proposed action, both by reviewing and approving all work in advance, and by overseeing all fieldwork.

Respondents will also be required to develop an Incident Management Plan to ensure 24-hour, seven days a week surveillance at OU-1; to describe measures to prevent incidents, required protocols for initial incident emergency notifications to local, state, and federal authorities, anticipated initial response actions, coordination of responses including proposed command post locations, and resumption of normal activities; and to ensure all appropriate workers are trained in the implementation of this Incident Management Plan.

Transportation, treatment, storage, and disposal of hazardous substances will be in accordance with all applicable local, state, and federal requirements. Off-Site disposal will comply with Section 121(d)(3) of CERCLA and 40 C.F.R. § 300.440.

B. Contribution to remedial performance

The proposed action will to the extent practicable contribute to the efficient performance of the long term remedial action with respect to the release of hazardous substances at and from the Site. The remedial action for OU-1 selected in the 2008 ROD is not contingent on the performance of this removal action. In addition, the ROD-selected remedy is currently under additional review and could potentially change. Performance of this removal action would not adversely affect or prevent the implementation of any future remedial actions for the Site. The cover required by this removal action is considered an interim measure to address short term threats of release due to surface fires that may cause contaminants to migrate.

C. Applicable or Relevant and Appropriate Requirements (ARARs)

1. Federal

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 C.F.R. § 300.415(j) provides that removal actions shall, to the extent practicable considering the exigencies of the situation, attain ARARs under federal environmental or state environmental or facility siting laws. The following ARARs have been identified for this removal action:

Action/Prerequisite	Requirement	Citation
Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA)	Identifies concentrations of Radiologically Impacted Materials (RIM) which necessitate action	42 U.S.C. § 7918; 40 CFR Part 192
Occupational Health and Safety Act Standards	Worker protection	29 C.F.R. Part 1910
Hazardous Materials Transportation Act	Transportation	49 U.S.C. §§ 801 – 1813, 49 C.F.R. Parts 171 – 179
The National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	Standards for radon-222 emissions	40 CFR 61 Subpart T

2. State

A letter requesting that the state identify ARARs for this action was sent on November 18, 2015. State-identified ARARs will be incorporated into the proposed action to the extent practicable upon receipt of the State's response.

3. Project Schedule

A work plan will be prepared and contain a schedule for the expeditious placement of the cover, as well as grubbing and removal of brush and trees in areas where RIM is located at or near the surface at OU-1. Work is anticipated to take place in a phased approach to minimize the exposure of unsecured surface RIM directly to the environment. Work will be completed as quickly as possible, and is anticipated to conclude by April 2016.

B. Estimated Costs

The removal action is expected to be funded by the PRPs.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action could potentially result in the further release, or threat of release, of hazardous substances into the environment through a surface fire in areas containing RIM.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with this action.

VIII. ENFORCEMENT

The PRPs are known, as identified above in Section I. Purpose. The work will be performed promptly and properly under the requirements of a CERCLA removal order to Bridgeton Landfill, LLC, Rock Road Industries, Inc., and Cotter Corporation (N.S.L.). See attached Enforcement Addendum for additional information.

IX. RECOMMENDATION

This decision document represents the selected removal action for addressing the potential future threat of a surface fire on or near the radiologically-contaminated wastes in Area 1 and Area 2 of OU-1 at the Site. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet the NCP § 300.415(b)(2) criteria for a removal action, and I recommend your approval of this proposed removal action. The total EPA costs to oversee this response action are estimated to be $69,000.

Approved:

Mary P. Peterson

Mary P. Peterson, Director
Superfund Division

12/9/2015

Date

Attachment